

Title: Non-invasive Corrosion Sensor

Application Number: 10/744,649
Response to Office Action mailed 12/15/2004
Navy Case Number 85003***REPLACEMENT ABSTRACT***

On Page 11, lines 5-10, please replace previously filed abstract with the following abstract:

ABSTRACT

The non-invasive corrosion sensor includes a heat sink, at least two peltiers, a reference standard and a data acquisition device. Each peltier has a negative side and a positive side, and each peltier communicates with the heat sink such that the negative side of each peltier is maintained at a common temperature. The reference standard communicates with the positive side of one of the peltiers while the test piece communicates with the positive side of the other peltier; and the data acquisition device is able to record and compare the differences in temperatures between the test piece and the reference standard. A higher temperature in the test piece than in the reference standard indicates the presence of corrosion. The differences in temperatures of the test piece and the reference standard are obtained via electrical currents in the peltiers.